

## STOA NEWS

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The following projects of the STOA work programme have been completed in May / June 2008: *Looking Forward in the ICT and Media Industry, Food Issues and Human Health, Global Human Health*. Reports will soon be available for download on STOA's ([http://www.europarl.europa.eu/stoa/default\\_en.htm](http://www.europarl.europa.eu/stoa/default_en.htm)) as well as on ETAG's (<http://www.itas.fzk.de/etag>) webpage.

The STOA Panel in its meeting in June decided to add two new projects to the work programme: "Agricultural Technologies for Developing Countries" and "ICT and Energy Consumption".

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## New STOA Projects

### Agricultural Technologies for Developing Countries (July 2008 – April 2009)

The project aims to gather information on possible contributions of agricultural technologies integrated in production systems to increased productivity and efficiency in agriculture to provide a basis for action in EC development policy. More specifically, objectives are a) to assess key agricultural technology systems for small-scale farmers and b) to identify areas of action for capacity building and empowerment in developing countries.

The project will begin with a literature review and an evaluation of important assessments on agricultural science and technology. The aim is to identify the strengths and weaknesses of the international agricultural science and technology system and to explore the access to and adoption of agricultural technologies in developing countries, as well as the possibilities and problems of improving agricultural productivity and reducing food insecurity in developing countries. Special focus will be on the basic conditions (e.g. infrastructure, financing, political system, and corruption) affecting the introduction and successful use of agricultural technologies. The literature review will serve as a background for a more in-depth assessment of the following selected agricul-

tural production systems and their technologies, with a focus on small-scale farmers:

- rain water harvesting (and irrigation),
- conservation agriculture,
- agro-forestry systems,
- organic farming,
- transgenic plants.

For each selected production system,

- available and emerging technologies (state of the art and new developments) will be described,
- the changes and constraints to adaptation by small-scale farmers will be assessed,
- major differences between global regions, cultivation conditions and farming systems will be elaborated,
- favourable conditions for the promotion and sustainability of these agricultural production systems will be determined, and
- areas of action will be identified.

The results of this analysis will serve as basis for a high-level expert meeting to discuss policy implications and options. Particular attention will be given to opportunities for capacity building and empowerment in developing countries.

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### Assessing the Impact of ICT on GHG Emissions – Key Technologies and Potentials (August 2008 – April 2009)

The EU has set the target of reducing CO<sub>2</sub> emissions by 20 percent by 2020 in order to combat climate change. This aim obviously can only be achieved by reducing energy consumption through energy efficient technologies. The STOA project intends to contribute to a better understanding of the net impact of information and communication technologies (ICT) on greenhouse gas (GHG) emissions. On the one hand, it will explore the technological potential of ICT applications contributing to a reduction of GHG emissions. On the other hand, it will look at energy consumption and GHG emissions induced by ICT (including consumer electronics) and its future developments. The latter means to take into account the expected growth rates in the ICT sector as well as what is called "green computing". This will be done by re-

viewing and comparing literature and technical documents in this field. Experts will be interviewed on key issues of the project. In doing so, the project aims at identifying relevant factors that influence the net impact of ICT on GHG emissions as well as technological innovations with promising potential for improving this net impact. The project comprises two phases:

1. Scoping and selection of the most relevant areas of impact of ICT on energy consumption and GHG emissions. A list of selected areas and promising technologies will be validated by expert interviews. Important criteria for selection will be the estimated and / or potential impact of ICT on energy consumption and GHG emissions.
2. Promising ICT and innovations in the selected areas will be described in greater detail. Based on a literature review, figures, indicators and relevant factors for assessing the effects of these technologies will be compiled. This data will be used to assess the net impact of ICT on GHG emissions and the potential for improvements. The results will be discussed and validated with experts in the form of additional evaluative interviews.

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## Workshop ICT & Media Industries in the Times of Web 2.0

European Parliament, Brussels, June 26, 2008

by Knud Böhle, Michael Rader and  
Arnd Weber, ITAS

### 1 Introduction

The workshop was an activity of the STOA project “Looking forward in the ICT and media industry – technological and market developments” carried out by ITAS as member of ETAG (European Technology Assessment Group).<sup>1</sup> The project combined desk research, an expert survey, and a workshop at the European Parliament, on which we report in the following.<sup>2</sup>

The workshop was chaired by Malcolm Harbour MEP (Vice-Chairman of the STOA

Panel) and attended by around 30 people, including MEPs, MEP assistants, commission staff, representatives of the European Technology Platform NEM (Networked Electronic Media) and various other stakeholder organisations. The agenda consisted of an introduction to the subject of the workshop and the STOA project, and four talks from invited experts. In his welcome address, the chairman explained the remit of STOA, the goals of the project, including the role of the workshop as part of the scientific work.

### 2 Presentations

In his introduction *Knud Böhle*, the project leader for the contractor, gave an overview of the work done for the project prior to the workshop, and described the thematic focus of the project by explaining three basic concepts: Networked Electronic Media, Web 2.0, and User Generated Content (UGC). He proposed understanding Networked Electronic Media as technically and socially networked media, to understand Web 2.0 not only as a wealth of new media but as a convergent environment, and to understand UGC not simply as creative work by amateurs but as a broad concept covering the many ways in which users are and can be involved in the value chains of networked electronic media - including even the commercial exploitation of data traces left involuntarily by users. Regarding policy relevant issues that will not be solved easily, he drew special attention to copyright and privacy issues.

*Frank Mackenroth* of PricewaterhouseCoopers gave a presentation on new media and entertainment industry statistics aimed at comparing Europe's position in the global context. He concluded that Europe had impressive growth rates with respect to media use, but that the “centre of gravity” was shifting to the rapidly industrialising countries Brazil, Russia, India and China as well as to the Asia Pacific region. Growth in these regions was triggered largely by increased available income and demographics, i.e. the larger share of young people among their populations. With respect to electronic markets, European media industries face some difficulties, because the strong bias towards advertising-based business models in these markets makes it difficult to develop offers

for the smaller local European markets defined by language. However, as Frank Mackenroth asserted, the diverse and rich media heritages embedded in European culture together with the relatively high esteem for intellectual property are a fertile soil for a specific European interpretation of new media applications. Once the hurdle of heterogeneous regulatory and competitive landscapes has been overcome, Europe has the potential to create a more competitive industry.

*Hugh Look* of Rightscom started his presentation “The role of ICT infrastructure developments in framing the future of media industries” with a backward glance to the point where the media industry lost control due to the availability of generic devices. This is at the very beginning of networked electronic media. He then focused on infrastructure developments. His concept of an infrastructure was broader than conventional and covered more than simply the networks themselves. The concept of infrastructure basically requires that the channels for access have to appear neutral to users. More and more things are migrating into the infrastructure, such as on-demand applications, personal data storage, e-mail, telephony etc. The infrastructure already includes significant amounts of media, starting from Google and extending to applications such as Facebook. A major part of his presentation was devoted to Apple’s iTunes service and the iPod as a specific case of a fairly seamless infrastructure for delivery of music from artist to ear with a simple business model, streamlining the former value chain. As a general consequence of new needs of users today, the infrastructure has to be geared to high-performance, bi-directional applications. He saw a possible role of policy makers in ensuring sustainable and transparent infrastructures, infrastructure neutrality, and digital policy management based on an understanding of where technical protection measures are appropriate and which alternatives exist.

*Sander Limonard* of TNO ICT gave a presentation on business models and copyright aspects of UGC platforms. He employed the concept of the “long tail” to characterise UGC platforms. Professional content is usually located close to the axis where there are many users for few “blockbuster” products. There is a so-called “tipping point”, where professional content is augmented with user-generated con-

tent and where sites are usually run by media companies. The remote part of the long tail is the domain of the original user generated content addressing niche audiences. Industry will filter out good ideas and talent from this pool of ready made content, in some cases adding it to professionally produced content to make this seem more “authentic”.

Sander Limonard also addressed copyright policies appropriate for UGC platforms. He described social networking mechanisms as a critical tool in monitoring and managing copyright infringements. He proposed measurement of value on UGC platforms (measurement of niche markets, the value of niche products and collections) in order to draw a line between niche and popular content. And this line should be used as a threshold, which defines where control of copyright is worthwhile and where not. A copyright policy based on this type of measurement might be able to avoid court cases and replace them with business deals. In all, more flexible copyright regimes are needed, as most terms of use are currently static and there are few exceptions.

In the final presentation, *Sandra Baron* of BCC raised the question whether the best was yet to come in the area of mobile content. She started by describing the situation in Europe which is not yet very favourable for the mobile Internet to take off. Portals of mobile operators had turned out to be of low end-user benefit. European operators allegedly did not push e-mails with links to Web content for fear of cannibalising their SMS revenues. Consumers also felt deceived by lack of network availability, lack of interoperability, and high, partially hidden, prices for data access. Usability of services is said to have improved meanwhile, due in part to competitive pressure from companies from outside Europe. For the European mobile Internet content market to flourish simple pricing structures, no hidden costs, and in particular flatrates, including price ceilings for roaming would be essential.

### 3 Debate

There was lively debate after each presentation and the same holds for the final debate. Here we pick out some of the recurrent issues. One of these issues was the role of advertising in

Web 2.0 business models. While Eva Lichtenberger MEP doubted that there were benefits in personalised advertising, Frank Mackenroth pointed out that it should improve in its focus, so that it is no longer simply perceived as a nuisance. Malcolm Harbour MEP remarked that there is less willingness to pay for content on the Internet and subscription models are viewed as unlikely. The growing importance of advertising in Web 2.0 environments is just the other side of “free content”. In his opinion, media industries have not only lost control to technology, as pointed out by Hugh Look previously, but advertising is also losing control to technology. Eddan Katz, responsible for European affairs at the Electronic Frontier Foundation, suggested considering “reputation economics” in more depth to better understand the new Internet media business.

The specificity of UGC platforms as commercial media had been explained by Sander Limonard with findings from the EU-funded Citizen Media project. The debate showed that things are even more complex. Stefan Arbanowski (Fraunhofer Focus, Berlin) stated that the shift in revenue streams described in the presentations was, all things considered, a zero-sum game. He also argued that media companies would not follow the long tail logic highlighted in the talk, and that YouTube was not yet a cash-cow. Eddan Katz remarked that the talk had examined Web 2.0 primarily as a means for distribution, while the collaborative production of content and corresponding business models had not been addressed.

Privacy concerns were another recurring issue and in particular the trade-off between, on the one hand, increased possibilities for the personalisation of media content and privacy risks, on the other. Luis Rodriguez-Roselló, Head of the Networked Media Systems Unit (DG INFSO), drew attention to this issue for future location-based mobile services. Eva Lichtenberger raised the issue of loss of anonymity in connection with forensic DRM. Without disregarding the privacy issue, Hugh Look said that there is pressure for governance from the public which has its own perception of risk on the Internet, and that there is still need to sharpen awareness of the true risks, a need to prioritise and filter attention to risks. One need only think of the economic damage caused by a major broadband

provider to a large city going offline for a considerable period of time.

In the discussion about the state of the European content markets, Eva Lichtenberger raised the issue of language lines: In most non-English-speaking countries the greatest proportion of internet traffic is to sites in the local language, while cross-border business is mostly in English. She also raised the question whether cultural diversity was not threatened due to the lacking attractiveness of the markets of smaller member states and the tendency towards globalised entertainment. Frank Mackenroth confirmed that there is a problem for small local markets like the Baltic States to grow as they are unattractive for the major players. There was also discussion about the mobile Internet. While Sandra Baron pointed out that openness of phones for Wifi and Skype as emerging on some European markets – unwanted by the larger operators – is essential for increasing competition in the area of mobile Internet use, Malcolm Harbour gave the argument another twist indicating that free Wifi is also a significant competitor to 3G.

The Chairman, Malcolm Harbour, summarised the workshop by pointing out that the task of the ETAG project was not to address all social concerns and social changes in the area of Web 2.0, but to target the dynamics with most relevance for media industries. Knud Böhle on behalf of the ETAG team highlighted in his final statement that the workshop had shown that the role of advertising deserves special attention, and that also the assumption that privacy problems were of utmost importance was confirmed by the workshop.

## Notes

- 1) The final project report – Böhle, K.; Rader, M.; Weber, A.; Weber, D.: Looking Forward in the ICT & Media Industries. Brussels 2008 – is expected to be available from the ETAG site (at <http://www.its.fzk.de/etag/>) end of September latest.
- 2) The presentations given by ETAG and the invited experts can be downloaded: <http://www.its.fzk.de/eng/etag/stoa-workshop-080626.pdf>. The minutes of the workshop are available on request.

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